



SUSTAINABLE RURAL LIVELIHOOD CHALLENGES IN AFGHANISTAN'S GHAZNI PROVINCE: USING ATLAS.TI SOFTWARE

Abdul Matin Miani^{1*}, Mohammad Omar Darwish²

1- Assistant Professor, Faculty of Agriculture, Department of Economics and Extension, Ghazni University, Afghanistan

2- Associate Professor, Faculty of Agriculture, Department of Horticulture, Ghazni University, Afghanistan

Article history:	Abstract:
<p>Received: 20th March 2022 Accepted: 20th April 2022 Published: 1st June 2022</p>	<p>To provide families with a stable source of income through productive activities, efforts must be made to sustain livelihood activities. In this regard, the goal of this research is to identify livelihood challenges in Andar district's northern villages. The current study belongs to the qualitative research category. Purposive sampling was used in this qualitative study, and data was collected using a semi-structured in-depth interview technique. The data was analyzed by ATLAS-ti software. The researcher attempted to discover the challenges and factors affecting sustainable livelihood in the northern villages of Ghazni province's Andar district, and first extracted 67 initial codes. 11 main categories and 19 subcategories were identified after many revisions and integration of codes based on similarity in several phases. The findings revealed that, despite the difficulties to a sustainable livelihood, the economy of the studied villages is based on traditional agriculture, and that such an economic structure is vulnerable to a variety of factors. According to the research results, agricultural activities determine the economic life of the studied villages that the agricultural sector alone is not able to provide livelihood for households. Therefore, as the agricultural sector is strengthened and modernized, the current economy of these villages must shift. To this purpose, a strategy of livelihood diversification is an effective way to alleviate the unfavorable living conditions in these villages.</p>

Keywords: Livelihood Challenges, Livelihood diversification, Afghanistan, Ghazni province, Atlas.ti

1- INTRODUCTION

Livelihood is seen as a critical component in people's lives all around the world. It is a hotly disputed and explored topic in contemporary economics literature, focused on people, their capacities, and their means of subsistence, such as food, income, and activities (Chambers and Conway, 1991). The ability to access assets for productive purposes determines a household's livelihood (Ravindran and Thomas, 2000), and hence, household asset accessibility is a necessary necessity for survival. Households' livelihoods are generated by combining various assets with human labor in economic activity. Ellis (2000b) describes a livelihood as a collection of assets, activities, and accessibility mediated by institutions, which together determine how households live. The concept of sustainable livelihoods was originated in the field of rural studies and has since been expanded and utilized in a wide range of fields in both developed and developing countries (Ellis, 2000; Scoones, 1998; Tao & Wall, 2009; Mbaiwa & Stronza, 2010; Mbaiwa, 2011; Snider, 2012; Wu and Pearce 2013). The concept of livelihoods refers to the opportunities that households have to generate a stream of benefits, most commonly measured as income, through their asset endowments (Walelign, Pouliot, Larsen, and Smith-Hall, 2016) and their chosen allocation of those assets across various activities (Walelign, 2017). (Barrett et al., 2001). As a result, livelihood can be described as a collection of cash and in-kind income streams derived from various activities (I. I. Ahmed and Lipton, 1997). Various development efforts have often failed to encourage sustainable livelihoods in impoverished rural areas, ranging from agricultural development interventions and microfinance projects to the promotion of private investments (Hajdu et al, 2020). Sustainable development is important for national and societal growth, as well as the long-term development of low-income individuals and families. As a result, one of the most important aspects of sustainable development is sustainable livelihood (Zhang et al., 2019a, Zhang et al., 2019b). Development actors in both developing and developed countries are working to achieve sustainable livelihoods (Defe & Matsa, 2021). A sustainable livelihood can be utilized to help integrate

*E-mail: Abdulmatin1397@gmail.com

development strategies, manage sustainable resources, and eradicate poverty all at the same time (Krantz, 2001). As a result, offering a livelihood approach for rural poor empowerment and capacity building is one of the most basic and essential approaches to achieving sustainable development (Pandey et al., 2018). Food insecurity encompasses low-quality food, a lack of consistency in food access, and a livelihood vulnerability strategy that provides adequate food in good times but is vulnerable to shocks. Food insecurity, both chronic and transient, has affected a considerable section of the Afghan population. This situation (chronic food insecurity) is getting worse (World Bank, 2019). In Afghanistan, 54.5 percent of the population lives in poverty, and 53.2 percent of the overall population is malnourished (USDA, 2020; FAO, 2019). As a result, according to the UNDP's Human Development Index, this country was ranked 171st in the world in terms of food security in 2015. (FSIN, 2017). The Human Development Index gives this country one of the lowest ratings (0.496). (UNDP, 2019). According to the UNDP's Human Development Index, this country was ranked 171st in the world in terms of food security in 2015. (FSIN, 2017). As a result, food insecurity in Afghanistan is becoming a permanent and serious problem. According to the United Nations Office for the Coordination of Humanitarian Affairs 2020 Afghanistan Humanitarian Needs Overview, about 11 million people, or 35 percent of the total population, required emergency food and agricultural livelihood support (USDA, 2020). Afghanistan's economy is focused on agriculture and animal husbandry. It employs a significant portion of the country's workers, either directly or indirectly. According to the National Statistics and Information Authority (NSIA) (2018a), the agriculture sector employs over 44% of the workforce in 2016. This means that agriculture and livestock raising provide a livelihood for 44% of the workforce. If we include school-aged children and women who work in agriculture, the number of workers in the field rises dramatically. Furthermore, the sector contributes significantly to the country's economic growth, accounting for almost 19 percent of gross domestic product in 2018. (NSIA, 2018b). Afghanistan's principal exportable items are agricultural and livestock products, which result in an influx of foreign currency into the country. Agricultural and livestock products account for approximately 80% of total goods exported, according to NSIA (2018b). Regardless, agriculture and animal husbandry play an indisputable role in ensuring food security and alleviating poverty. As a result, agricultural development is critical for economic growth, poverty reduction, and national food security. Despite the importance of agriculture and animal husbandry to Afghanistan's economic development, the industry remains underdeveloped and plagued by issues (Hassanzoy et al., 2019). Despite years of work, farmers and livestock keepers have remained poor, owing to the subsistence and traditional character of agriculture and animal husbandry in the country. Despite the fact that the sector's output and productivity have increased in recent years, the country remains heavily reliant on food and agricultural imports. In 2018, food products accounted for almost 31% of all imports (NSIA, 2018b). Afghanistan is a developing country with a poverty rate of more than 54.5 percent of the population (World Bank, 2020). According to the World Bank 2020, Afghanistan's economic income will fall between 5.5-7.4% in 2020 as a result of the COVID-19 pandemic, and poverty will rise. The deteriorating food security and livelihood situation has continued until 2019, with the most significant contributor being the droughts of the previous decade, particularly in 2018, which damaged more than two-thirds of the country and destroyed the agriculture industry (FAO, 2019). The drought has lowered food production, depleted farmers' and herders' assets and livelihoods, cut people's income in half, and deteriorated their health, encouraging Afghans to resort to negative coping methods like as begging, indebtedness, and asset and livestock sales (FAO, 2019). Crop farming and livestock are the primary sources of subsistence and income for 26.7 million Afghans, and 14.3 million Afghans live below the poverty line. Of these, 12.9 million (about 90% of the population) reside in rural areas and rely on the agriculture sector for their livelihood (FAO, 2019). The importance of paying attention to the villagers' livelihood sustainability, which is one of the foundations of attaining sustainable rural development, appears to be critical. Since the economy of rural settlements in Andar city is dependent on agriculture, and such an economic structure is sensitive to a variety of circumstances, it is vital to focus on the villagers' livelihood sustainability. People in the studied villages suffer a variety of livelihood issues, which must be identified in order to improve the villagers' living situations. Unfortunately, no research has been done to identify these challenges in the studied villages. Therefore, the present study was conducted to identify the existing livelihood challenges in the studied villages to identify existing challenges and find solutions to them. The purpose of this research is to identify and assess the problems of achieving sustainable livelihoods in rural regions, as well as to answer the following questions: What is the living situation in the villages under study? What are the existing livelihood challenges in the studied villages? And finally, what factors are involved in increasing livelihood challenges?

2- RESEARCH METHODOLOGY

Qualitative research is a sort of study that focuses on people's personal experiences. It assists us in comprehending what is essential to individuals (Silverman, 2020). To describe, explore, comprehend, and explain events, qualitative research use inquiry methodologies that collect qualitative, non-numerical data. In-depth data that is difficult to assess, such as meanings, understandings, and experiences, is best collected using qualitative methods. Qualitative researchers study phenomena in their natural settings in order to comprehend or interpret them in terms of the meanings people attach to them (Lincoln & Denzin, 2005).

A well-chosen approach helps the study achieve its objectives and guarantees that the results are useful and well-received. To this purpose, researchers must be encouraged to conduct qualitative research (Jones & Alony, 2011; Suddaby, 2006). This is a qualitative study that examines the participants' inner experiences and how they interpret them from their own perspective. In order to collect data for this study, we used purposive sampling. Purposive

sampling is a sampling method in which the researcher selects people from the population to take part in the study based on his or her own judgment (Sunders et al., 2018). Purposive sampling is a non-probability sampling technique in which "sample components are chosen based on the researcher's judgment." Many researchers believe that by using good judgment, they can obtain a representative sample while saving time and money (Black, 2019). Data collection tools in this study were interview, observation, photography and video. The process was to choose an initial interview group first, and then conduct interviews with subsequent groups based on the first group's introduction. Farmers, non-farmers, students, alumni, government workers, experts, specialists, and key informants, among others, were interviewed. The interviews ranged in length from a few minutes to more than 38 minutes. As a result, 23 individual and group interviews were conducted. The data was analyzed by Atlas.ti software. The processes for completing the coding for the research model are described below.

2-1- Step 1: coding the text of the interviews

Following the interviews, the text of the audio files recorded in the participants' native language was transcribed first. When conducting interviews, text notes were also taken during the interviews. After entering the data into the Atlas.ti software and examining it, a code was assigned to each section where a certain notion could be grasped.

2-2- Step 2: Classify the concepts to achieve the categories

At this stage of comparing and classifying the concepts, the same basic codes were grouped together in a class and the initial classes were produced after extracting the concepts and identifying the starting codes. These merged classes formed categories.

2-3- Step 3: Draw semantic relationships between codes and categories to achieve a research model

After classifying the concepts, the coding process was repeated from the beginning. In the process, some code was removed, and some were embedded in other code. At this stage, the categories were changed, certain items were consolidated, and new classes were created. It's worth noting that the interviews went on until the data was saturated.

3- STUDY AREA

The present study was conducted in the northern villages of Andar district, Ghazni province, Afghanistan. Andar is a district in Afghanistan's Ghazni province, located 30 kilometers southeast of Ghazni and one of the most populous districts. It has a total size of 774 Km² (independent directorate of local governance, 2019). The studied village (Hakim Khan Baba, Haji Kala, Tangai, Ghulam Sediq Qala, Chaharkhanah and Akakhil) are located in the north of Andar District and close to the center of Ghazni city. The total number of households in these rural is 201 and their total population is 2198 people.

Table 1. Profiles of the interviewees

Number	Place of interview	Number of interview	Number of interviewees	Average duration of interviews
1	Hakim Khan Baba village	6	51	25 minutes
2	Ghulam Sediq kala village	3	28	33 minutes
3	Chaharkhana village	4	48	35 minutes
4	Tangi Village	4	38	28 minutes
5	Akakhil villages	2	18	38 minutes
6	Haji kala village	4	41	25 minutes

4- RESEARCH FINDING

The current study is being undertaken to attain sustainable livelihood in the villages of Andar district due to the difficulties and potentials in Afghanistan's countryside, In order to identify the livelihood problems and challenges of these villagers, and to find various solutions for them. In this qualitative research, challenges and factors affecting sustainable livelihood in the northern villages of Andar district, Ghazni province were identified. And first, 67 initial codes were extracted. By multiple revisions and integration of codes based on similarity in several stages, 11 main categories and 19 subcategories were extracted (Table 2).

Table 2: Identified challenges to sustainable livelihood in the studied villages

Main categories	Subcategories	Concepts
Lack of food	Nutritional	Increased diseases due to malnutrition, Weak level

security	Challenges	of food diversity, High food prices, Lack of access to clean drinking water, Low income
War and security challenges	The negative consequences of war	Lack of financial and human security, burning of farms and gardens during the war, destruction of home during the war
	Investment security	Unfavorable security conditions of villages for investment, ineffectiveness of investment in the agriculture sector, lack of private sector investment.
Poor performance of livestock and poultry	Weakness in livestock and poultry eugenic	Disease susceptible cows, prolonged breeding period of cows, increase in cattle feeding diseases in winter, high cost of cattle and sheep fodder, lack of artificial insemination centers for caws, lack of attention to breeding olden cows, lack of access to improved breeding of poultry.
	Lack or deficiency of dairy products	Low lactation capacity of cows, reduced maintenance of cattle and sheep.
Weakness in the effectiveness of government affairs	Lack of government attention	Lack of educational-extension programs in rural areas, lack of cooperative institutions in villages
Economic and financial shocks	High economic vulnerability	Lack of cultivation of dry farm wheat due to drought, high price of wheat, high vulnerability to shocks of reduced agricultural products
	High risk and reduced savings	The strategy of increasing income is limited to a specific sector (single-product agriculture), reducing yields, low manpower wages, high overhead costs of agricultural products, growing poverty
	Weakness in the construction of rural housing	Physical damage to rural dwellings Due to the texture of clay and mud in winter, the high cost of reconstruction of damaged rural dwellings in winter
Problems of marketing agricultural products	Price fluctuation	Instability in product prices.
Hygiene and Health	Improper health services	Existence of pharmacies without official government license in villages, low quality and outdated drugs, existence of non-specialist doctors in villages
high costs of consumption resources (energy carriers)	High cost of energy carriers	High price of gasoline and gas, Expensive fuel materials, Lack of electricity in the villages
	High cost of drinking water and irrigation	High cost of drilling deep wells, High cost in preparing drinking water, High costs of extracting water from the ground
	Use of solar energy	Use of solar water heaters, prevention of air pollution, reduction of energy carrier costs, creation of incentive and support programs for the use of solar energy, job creation in the solar energy sector
More dependence on agricultural sector	Traditional agriculture	Excessive shortage of agriculture specialists, wheat cultivation once every two years, lack of frost-resistant vine species, subsoil of vines in winter, breakage of vine branches during subsoil, presence of vines sitting on the ground after removal from the soil, lack of tree vines or standing, damage to grape crops from contact with the ground, turning grapes into raisins in the open air and traditional methods, traditional and unscientific pruning of vines.
	Restrictions on agriculture land	Rural population growth, large and spacious culture houses, Existence of dry aqueducts has limited the land

	Drought and traditional irrigation methods	Lack of modern irrigation system, water leakage, drying of aqueducts, lowering of groundwater level
Lack of attention to industrialization of villages	Weak handicrafts	Lack of handicraft shops, Lack of attention to large and small industries, Lack of attention to women's skills in the handicrafts sector
Lack of diverse job opportunities	Lack of attention to rural entrepreneurship	Decreased necessary job skills, Lack of informative programs in the field of job skills acquisition, Unemployment in autumn and winter

4-1- Lack of food security

Food security is defined by the FAO as "physical and economic access to sufficient, safe, and nutritious food to meet dietary needs and food preferences for an active and healthy life at all times" (FAO, 1996). This comprehensive definition of food security emphasizes four distinct food security aspects (Jones et al., 2013), which include food availability, accessibility, and usage, as well as the stability of each of those characteristics (Jones et al., 2013). Afghanistan is regarded as one of the world's most food insecure countries, with a large proportion of the population suffering from malnutrition as a result of natural disasters, four decades of internal and external wars, poverty, lack of employment, low wages, insufficient wheat and other grain crops, decreasing livestock production, insufficient water resources for agriculture, and a lack of education and health services (USDA, 2013). Due to various factors, local people do not have access to healthy food, and some of them, especially children, suffer from various diseases such as malnutrition. The following comments were made by the majority of interviewees:

"People's dietary diversity is very poor. That is, he eats two or three types of food continuously. Because there is a lot of poverty and people do not have money".

4-2- War and security challenges

Throughout the four decades of conflict and unrest, irrigation systems, institutions, and agricultural infrastructure were all ravaged. It could be one of the primary causes of low agricultural productivity (Zhiquan & Samim, 2020). Aside from the human cost, Afghans have lost their livelihood and their access to education, healthcare, and other essential services has been harmed (HRDPA, 2010). The following was the consensus of the interviewees:

"Due to the lack of security and the successive wars, a lot of damage has been done to our lives, which has weakened the agricultural sector. Homes, gardens and farms were damaged, and many people were damaged by the war. In short, war is the cause of all misery."

4-3- Poor performance of livestock and poultry

The majority of the people in the studied villages work in agricultural and animal husbandry, although livestock and poultry farming is done to a small amount in the villages using conventional methods, and the locals are not satisfied with the results. Here are some examples of quotes in this regard:

"We have cows and chickens, but their milk and egg production is very low. We have old cows and they are lost every year for various reasons. And the livestock and poultry sector is very weak and the local people can't get any benefits from its maintenance".

4-4- Weakness in the effectiveness of government affairs

Historically, Afghanistan has experienced weak governments that have been unable to extend their power to all parts of the nation. Economic development and social reform programs at the national level have never been formulated or executed. To confront the challenges, proper investment has not been done. There was also no proper and effective management of limited natural resources, such as land and water suitable for agriculture. In addition, capacity building, including manpower and investment, has not been considered to address economic and social challenges (HRDPA, 2010). Various reasons, such as government weakness, conflicts, and insecurity, have caused the local population to lose contact with the government and live in greater deprivation. In addition, the government has not implemented any development programs in any of the villages studied over the last few decades. This drew the following responses from the participants:

"An important means of subsistence for the local people is agriculture and animal husbandry. Unfortunately, the government has not helped to strengthen these sectors. Extension services that are important for agricultural development are non-existent and people are not familiar with the names of extension agents and cooperatives".

4-5- Economic and financial shocks

Shock vulnerability is an important feature of fragility in Afghanistan. Afghans are at danger due to the country's underdeveloped economic structure, high reliance on subsistence agriculture, topographical and climate change risks, a lack of official safety nets, and a long history of conflict (NRVA, 2011-12).

Participants in the interviews had the following opinions:

"The people of these areas are mostly agricultural products, especially grapes, which have been damaged by the agricultural drought. Also, every year, crops are damaged due to severe cold, various diseases and pests. By damaging agricultural products, the livelihoods of the villagers are damaged and the poverty rate rises."

4-6- Problems of marketing agricultural products

Farmers in the surveyed villages complain about a lack of sales markets in their production areas, and they are unable to profit from their crops. Price fluctuations are the biggest problem that farmers face. The following comments were made by the majority of interviewees:

" We face many challenges when transporting agricultural products, in general the main roads are muddy, there are no suitable vehicles to transport the product, and we can't offer our product to the market at the right time."

4-7- Hygiene and Health

The creation of a modern society and the wellbeing of its people is unquestionably ensured by the people's good health, which is an essential condition for men and women to participate in all human activities.

People in rural areas have long complained about unsatisfactory health services and have been dissatisfied with them, so the Afghan government and related health departments should collaborate on the development and expansion of health services to improve the availability and quality of these services. Increase the number of services provided. Participants said the following in the majority of the interviews:

"Since there are no specialist doctors in the villages, we must rely on the pharmacies that are there. It is extremely expensive, yet the effect of these drugs is negligible. There is no official monitoring, and all pharmacies and health centers are constructed without approval from the government. In summary, rural health care has turned into a lucrative industry, and everyone is suffering".

4-8- High costs of consumption resources (energy carriers)

Many people are unable to use modern energy services. For poor people, the most crucial factor is that their families have enough energy to cook and generate heat. Natural fuels such as wood, coal, and animal dung are extremely important to these people. Because they either don't have access to petroleum items or pay exorbitant prices for those that do. This drew the following responses from the participants:

" Fuel prices are very high, and the weather here is very cold. In winter, we have to buy heating materials at a high price, and the majority of households use animal waste and wood to heat their homes and cook."

4-9- More dependence on agricultural sector

The majority of the residents in the studied villages work in agriculture, and agriculture holds a specific value and place in the village's economic structure. These settlements' residents are more impoverished, relying mostly on agriculture to provide their basic necessities. In general, livelihoods in Afghanistan are highly related to agriculture, despite the fact that agriculture is inefficient and insufficient to feed the population (FAO, 2017). As a result, the rural economy needs variety (Motiee Langordi & Ardeshiri, 2007).

One of the participants made the following remark:

"Only through agriculture, in which we use the old methods, our income is provided, and this income is not a means of subsistence because now the population has increased and the needs have multiplied."

4-10- Lack of attention to rural industrialization

Rural industrialization and poverty reduction can be regarded complementary, according to the United Nations Industrial Development Organization, which emphasizes the process of building industry in rural regions (UNIDO, 1984). The following comments were made by the majority of interviewees:

"We have already mentioned that the income sources of the villagers' are very limited. If the income sources of the villagers increase, the livelihood problems may decrease."

4-11- Lack of diverse job opportunities

One of the most pressing concerns confronting the community is the lack of employment opportunities for rural residents (Saha, & Verick, 2016). It might be argued that implementing plans and initiatives to boost agricultural productivity, company and factory job possibilities, and rural inhabitants' overall quality of life is vital. Participants said the following in the majority of the interviews:

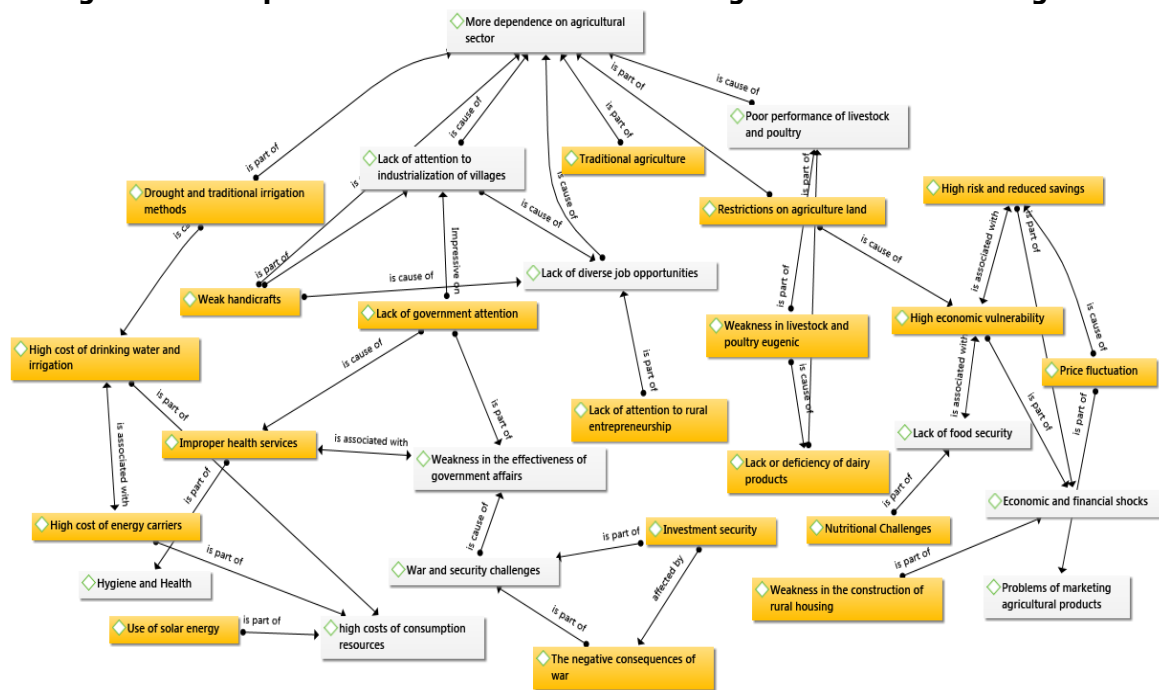
" If new jobs are created, unemployment may decrease. This is a very big challenge because the rural population is growing but no new jobs are being created."

5- CREATING NETWORK DIAGRAMS IN ATLAS.TI

Within Atlas.ti, there are two modalities of data analysis, according p textual and conceptual data analysis. Text segmentation, coding, and memo writing are all part of the textual level, which focuses on the raw data. At the conceptual level, tasks such as interconnecting codes, concepts, and categories to establish theoretical networks are prioritized. As a direct supporter, visualization in Atlas.ti refers to the way humans think or plan. The researcher remains focused on the data due to the visual representation of complicated properties and relationships between items (Muhr, 1997). The process of creating network diagrams with Atlas.ti is simple, but it takes time due to the numerous variations that can be employed in a design. The categories in this network diagram were labeled with different colors by the researcher. The conceptual network of barriers to accessing sustainable livelihoods in the surveyed villages is depicted in the figure below.

To distinguish the classes, the researcher employed various colors. Subcategories are represented by yellow boxes, whereas main categories are represented by light cement color. The results of the research can be presented correctly by providing an overview of the relationships between codes, as shown in the following figure, where different sections of data collected by Atlas software are analyzed and interpreted in greater depth, and semantic relationships between categories are drawn.

Figure 1: Conceptual network of livelihood challenges of the studied villages



6- CONCLUSION

It is vital to pay attention to the assets of sustainable rural livelihood concurrently and in an integrated manner in order to achieve the goals of sustainable rural livelihood. According to the findings of this study, the northern villages of Andar district are facing livelihood challenges. The information acquired from the researched villages suggests that people are facing several livelihood issues, which are increasing day by day due to a variety of circumstances. According to the research results, agricultural activities determine the economic life of the studied villages that the agricultural sector alone is not able to provide livelihood for households. From the analysis of the studied data, it can be concluded that severe dependence on the agricultural sector, war and security challenges, lack of food security and poor performance of the livestock and poultry sector have increased the livelihood challenges of the villagers. Agriculture is a major source of income for the villagers, but it is unable to meet their demands owing to a variety of issues including traditional agriculture, drought, a lack of capital, and restricted agricultural fields. As a result, for economic and social success, effective measures in the sphere of agricultural growth are required. The wars of recent decades have intensified the poverty and instability of Afghanistan, putting many Afghans' lives in jeopardy. In comparison to the city, the intensity and damage of the war in the villages is very high, and the studied villages have suffered greatly from the effects of the war and security challenges, and they play a significant role in weakening and damaging the agricultural sector, house demolition, rural people's disability, and lack of investment. Therefore, the politicians and the parties involved in the war must put an end to this problem in an effort to save the people from the negative effects of the war. Another critical problem for the residents of the areas under study is the scarcity of new job opportunities. As previously stated, the study villages' only occupations are agricultural activities, which inhabitants engage in during specific seasons of the year but are unemployed during the autumn and winter seasons. Strengthening the rural industry sector, particularly handicrafts, entrepreneurial growth, and the multi-tasking approach rather than single-function is one strategy to create new job opportunities. The current research had certain limitations. One of the limitations is that people found it very difficult to engage in the interviews owing to existing security and social situations, and local people's cooperation was relatively low. Another problem was the conduct of interviews, which were not easily accessible to some experts. Because in the study areas, the activities of the telecommunication networks were very weak and the researcher was present to set the time for the interview and set the time of the interview with the interviewees, which in some cases took about a month to set the time with the interviewees. In other cases, due to the outbreak of coronavirus, the time and place of scheduled interviews with specialists sometimes changed, which prolonged the research process. Grapes are a strategic crop in the villages studied; hence the role of this strategic crop should be explored in future studies. Future studies should look on ways to diversify economic activities.

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